

Title (en)  
METHOD FOR MANUFACTURING RARE EARTH PERMANENT MAGNET

Title (de)  
VERFAHREN ZUR HERSTELLUNG EINES SELTENERD-PERMANENTMAGNETEN

Title (fr)  
PROCÉDÉ DE FABRICATION D'UN AIMANT PERMANENT AUX TERRES RARES

Publication  
**EP 2685475 B1 20190821 (EN)**

Application  
**EP 12803474 A 20120315**

Priority  
• JP 2011140911 A 20110624  
• JP 2012056713 W 20120315

Abstract (en)  
[origin: US2013135070A1] There are provided a rare-earth permanent magnet and a manufacturing method thereof capable of boosting productivity by improving thickness accuracy of a green sheet. In the method, magnet material is milled into magnet powder, and the magnet powder and a binder are mixed to obtain a mixture including 1 to 40 wt % of the binder therein. Next, by high precision coating of a substrate with the mixture, a green sheet is obtained at thickness precision within a margin of error of plus or minus 5% with reference to a designed value. Thereafter, the green sheet is held for predetermined time at binder decomposition temperature in non-oxidizing atmosphere, whereby depolymerization reaction or the like changes the binder into monomer and thus removes the binder. The green sheet with the binder removed therefrom undergoes pressure sintering such as SPS method so as to obtain a permanent magnet 1.

IPC 8 full level  
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CPC (source: EP KR US)  
**B22F 3/22** (2013.01 - EP KR US); **B22F 9/04** (2013.01 - EP KR US); **C22C 19/07** (2013.01 - EP KR US); **C22C 33/0278** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP KR US); **C22C 38/005** (2013.01 - EP KR US); **H01F 1/00** (2013.01 - US); **H01F 1/0577** (2013.01 - KR); **H01F 41/0273** (2013.01 - EP KR US); **H01F 41/16** (2013.01 - US); **B22F 2998/10** (2013.01 - EP KR US); **H01F 1/0577** (2013.01 - EP US)

Cited by  
FR3058918A1; WO2018091855A1

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**US 2013135070 A1 20130530**; CN 103081037 A 20130501; CN 103081037 B 20160803; EP 2685475 A1 20140115; EP 2685475 A4 20150506; EP 2685475 B1 20190821; JP 2013030741 A 20130207; JP 5103553 B1 20121219; KR 20140036996 A 20140326; TW 201301311 A 20130101; TW I446374 B 20140721; WO 2012176513 A1 20121227

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**US 201213816104 A 20120315**; CN 201280002736 A 20120315; EP 12803474 A 20120315; JP 2012056713 W 20120315; JP 2012058077 A 20120315; KR 20137003370 A 20120315; TW 101109744 A 20120321